

Concurrent Workshop #3 and #2

PACT: POSTGRADUATE ADVISORS FOR CAREER TRAINEES

Vincent, Melanie; Fontaine, Arjun and Wefes, Inge

University of Colorado Denver|Anschutz Medical Campus

The PACT Program is a collaboration between our CU Denver|Anschutz BEST Program for Broadening Experiences in Scientific Training, which aims to make professional and career development opportunities an integral part of graduate and postgraduate training, and the Professional Science Master's Program in Biomedical Sciences and Biotechnology (BSBT). Professional Science Master's Programs are designed to graduate their students career ready, i.e. after earning their Master's degrees, students should be prepared to enter the workforce. To this end, students not only have to master many STEM courses, in our case in the arena of biomedical sciences and biotechnology, but they also have to participate in courses that are science related, but not science focused, such as, for example, courses in scientific and technical writing, bioentrepreneurship, etc. Furthermore, PSM students have to conclude their studies with a mandatory internship at a location of their choice, such as a research laboratory in academia or in industry, a tech transfer office or office of regulatory affairs or a biotech business, to name a few.

Due to the huge variety of biomedical research on both of our campuses, and the close relationship of many of our research laboratories with the local biotech industry, to which PIs often contribute in partnerships, licensed patents, or even opening their own companies, many of our PSM interns do not have to look far to find a valuable internship opportunity. At the same time, time stressed PIs are sometimes reluctant to take on another trainee, especially if the intern's prior knowledge in the lab's techniques is mostly course based, i.e. with no substantial hands-on experience. In this case, it is often a postdoc who serves as the intern's primary mentor, and this arrangement is to the benefit of both the postdoc and the intern:

Many of our postdocs aim for employment positions in liberal arts colleges, where they would like to engage in teaching/mentoring as well as in research where they will have to mentor students one-on-one and take responsibility for students who come with a wide range of understanding and prior expertise. Indeed, there is a difference in being helpful to lab mates and younger trainees and being the person who carries the primary responsibility for the success of an intern. To provide an official avenue for our postdocs to lead the research training of interns and gain experience as mentors, and possibly future faculty, we created a pact and piloted the PACT Program for Postgraduate Advisors for Career Trainees. In the PACT Program, with the agreement of their PIs, postdocs or other PhDs, possibly with different titles, commit to serve as mentors for interns for at least one semester.

In our pilot, two postdocs, Melanie Vincent and Arjun Fontaine took on the responsibility of mentoring an intern. At the same time, we are convinced that also in other internships in research labs, postdocs took on the bulk of the intern training and mentoring, but without any official recognition of their efforts. Melanie mentored an intern on "The Effects of Eya2 Phosphatase and Transcriptional Activation Activity on c-Myc Driven Group 3 Medulloblastoma" and Arjun mentored a student on "Using Optogenetic Techniques to Manipulate the Vagus Nerve in *Mus musculus*".

While for the interns requirements are already formalized in the internship course for which they have to sign up, we welcome the PACT Program as an opportunity to formalize the intern training also for the trainer/mentor.

**Requirements for postdocs to enroll into the PACT Program include:**

- Permission from their Principle investigator of the laboratory to serve as primary mentor for an intern
- Formulating an internship agreement where the learning objectives for the internship are formulated and agreed on by the intern, all committee members of the intern and the program director of the program where the intern is enrolled.
- Serving as expert guide and hands-on support for all research related questions and problem solving
- Obtaining a Special Graduate Faculty Appointment (S-GFA) from the program in which the intern is enrolled and from the Graduate School
- Reviewing the intern's project report and project presentation
- Serving on the intern's exam committee
- After the intern's project presentation/exam, submitting to the intern's program a mentee evaluation regarding his/her professional and reliable engagement

**The requirements for interns to enroll into the PACT Program include:**

- Permission from his/her Program Director to engage in the selected internship
- Discussing the internship project with the mentor and the program director and consenting to the internship agreement
- Committing to professional and reliable engagement in the laboratory, i.e. putting his/her best effort forward to learn and progress, well knowing that demanding research in a limited time of at least 10 hours/week/semester often does not lead to publishable outcomes.
- Composing a written internship report to be evaluated by the Internship mentor and the intern's committee, as well as an internship presentation to an unrestricted audience.
- After the intern's project presentation/exam, submitting to the intern's program a mentor evaluation regarding his/her service as mentor.

**Benefits of the PACT Program to Interns:** Interns have the best research mentors in the labs as PIs are often not hands-on anymore and have no issue admitting that there is a difference between knowing the theoretical principle of a technique versus the delicate intricacies of applying them. Indeed, even in the discussion after the intern's project presentation, PI's asked for reassurance related to their comments with statement such as "Melanie you know that better" or "Arjun, you are the expert on this". The mentor's internship evaluation will give the intern feedback on their professionalism during their internship, which will also serve as valuable information for their program for future letters of recommendation.

**Benefits of the PACT Program to Postdocs:** The PACT Program formalizes the experience and responsibility of postdoc mentors and provides an important preparation for prospective future faculty. As PACT mentors, postdocs hold a Graduate Faculty Appointment and will receive written feedback on their service, which should help them to improve. Conditional on a satisfactory mentor evaluation, the PACT Program will issue a Documentation of Mentorship, which all together should enhance the postdocs CVs and job opportunities.